

# Saturday Magazine.

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JOHN PETER ROTTLE, THE MISSIONARY.



SACRED to the Memory of the Reverend JOHN PETER ROTTLE, P.D., Missionary, who fell asleep in Jesus,  
On Sunday morning, January 24th, 1836, aged eighty-six years, and seven months.

This venerable servant of God, having, for the cause of CHRIST, left his country, kindred, and father's house in Germany,  
Laboured as a devoted Missionary in India for above sixty years,  
Formerly in the service of the Royal Danish Mission at Tranquebar,  
And latterly at Vepery, in the service of the Society for Promoting Christian Knowledge.  
He was also for several years Chaplain to the Madras Female Orphan Asylum.

As a testimony of reverence for the memory of this excellent man, and as an acknowledgment  
Of the mercy, faithfulness, and grace of God, exhibited in his life, labours, and death,

THIS TABLET IS ERECTED,

By the united subscriptions of European, East Indian, and Native Christians.

*Be not slothful, but followers of them who through faith and patience inherit the promises.—HEB. vi. 12.*

*The harvest truly is plenteous, but the labourers are few: pray ye therefore the Lord of the harvest, that he will send forth labourers into his harvest.—MATT. ix. 37, 38.*

ABOVE is the representation of a monumental tablet to the memory of the Rev. Dr. Rottler, which has been executed by Mr. R. Westmacott, Jun., and lately forwarded to India, to be erected in the Mission Church at Vepery, Madras.

The subject itself, of a Protestant clergyman unfolding the pages of the Gospel to an uninformed

but attentive heathen, and explaining to him "in his own tongue, wherein he was born\*, the wonderful works of God," would be interesting to the Christian reader, even without the epitaph which accompanies the plate; but the brief sketch of this

\* The words in Tamil, on the left page of the book, signify, *The New Testament.*

good man's life, which is here given in simple and appropriate language, has induced us to inquire further into the particulars of his history. Bishop Heber speaks of him in his *Journal* in terms of affection and respect, as "good old Dr. Rottler;" and writing to Mrs. Heber in 1826, he says, "I am greatly impressed with reverence for the worthy old missionary, Dr. Rottler." At a later period, (February, 1835,) in a charge delivered by the present Bishop of Calcutta, to the reverend Missionaries at Vepery, his lordship alludes to Rottler, as "one of the three honoured Missionaries who have laboured for fifty years or more in the fields where Ziegenbalg and Swartz, Gerické and Pohlé, Jœnické and Haubroe, had laboured before them, and who still survive to bless us with their advice and their prayers."

This excellent and learned person was born at Strasburg, in June, 1749, where he received his early education, which was continued at Copenhagen: he was admitted a candidate for ordination from the latter place, by the bishop of Zealand, in 1775. He embarked for India when ordained, arrived early in the year 1776, in the service of the Royal Danish Mission\*, at Tranquebar, and there laboured faithfully for many years. In the year 1803, he was nominated by the brethren at Tranquebar, to assist in the superintendence of the Vepery mission, in consequence of an application made to them on the removal to Calcutta of Mr. Pœzold, and the death of Gerické, which had left the station without a missionary.

The connexion thus formed did not extend beyond the year 1807; Mr. Pœzold having resumed his labours at Vepery: and Dr. Rottler remained at Madras, as Secretary and Chaplain to the Female Orphan Asylum, the duties of which appointment he conscientiously discharged for many years. The death of Mr. Pœzold brought him once more, towards the close of 1817, into the service of the SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE, and from that time until the day of his death, he continued a missionary in its employ at Vepery, frequently preaching in Tamil to the native congregations, and giving satisfactory proof of his ministerial zeal and usefulness. In 1833, the SOCIETY, in consideration of his valuable services, and also of his advanced age, allowed him a pension to the full amount of his stipend. He died on the 24th of January, 1836, in his eighty-seventh year. The Rev. C. Calthrop wrote as follows:—

His venerable remains (attended by the Archdeacon and clergy at Madras, and a great number of Europeans, East Indians, and natives), were interred in the Vepery Mission churchyard, on Sunday evening, the 31st of January; I reading our solemn funeral service in English, and my brother Missionary, Mr. Cœmmerer, in Tamil. Through the kind offer of the Rev. Mr. Cubitt, I addressed the English congregation in the evening, from 2 Kings ii. 11th and part of 12th verses. May God own and bless what was prepared in much haste and confusion, and delivered in much weakness and sorrow! Such a funeral I never before witnessed,—so solemn and affecting. From the feelings and tears which were manifested, I trust it may be long, yea, ever remembered by us.

The loss of this truly primitive Christian minister seems to mark an epoch in the history of the Protestant Mission in the south of India: for the long period of his faithful labours connect him with the earliest days of Christian knowledge in that country, and with the planting of many churches by the apostolic Swartz, and his contemporaries, under the blessing of Him to whose glory they were de-

voted. Rottler was twenty-two years a labourer in the same vineyard with Swartz, and survived him thirty-eight years. For the last twenty years he bore a prominent part in all the measures adopted for the improvement of the mission in Southern India, first under the Society for Promoting Christian Knowledge, and afterwards, on its transfer to the superintendence of the Society for the Propagation of the Gospel in Foreign Parts. In his latter days, he witnessed the erection of the new mission church at Vepery †, (the chief station in the neighbourhood of Madras,) the enlargement of the school, and the establishment of a seminary for training native youth to the duties of Catechists, and eventually for the sacred office of Missionaries. In all these works he zealously co-operated with the local committees, and with his brother missionaries; giving them the benefit of his counsels and experience, when his infirmities had diminished the powers of bodily exertion.

Among the most essential benefits he conferred on the mission in his private hours, were a revision of Fabricius's *Translation of the Old Testament*, and the preparation of a Tamil version of the Liturgy of the Church of England, now in general use throughout the congregations in union with the Church of England in Southern India, and also, it is believed, in those holding communion with the Wesleyan Methodists: he was likewise engaged to the last days of his valuable life in compiling a *Tamil and English Dictionary*, now in the press, to which he had devoted a certain portion of his time for twenty years.

In the earlier seasons of his residence in India, he pursued in his leisure hours the study of Botany: in which science he attained to great eminence. Having been in communication with the most eminent botanists in Europe, he received in acknowledgment of his high attainments, the diploma of a doctor of physical sciences, from the University of Vienna. He bequeathed to the Vepery mission his valuable Herbarium‡, his books and manuscripts, together with the contingent reversion of some other property.

In his public and private character no one could be more deservedly loved and respected. During a long period, he persevered in his holy calling, while heavily afflicted with sickness. For the last ten years of his life in India he was a constant sufferer, seeking his recreation in the most becoming and innocent pursuits, and in the end was brought to his heavenly rest in peace. A worthy associate of Swartz and Gerické! the last but one or two of those holy men, who were the privileged few, in early years, to have had committed to them amongst the heathen, in a land of darkness, the ministry of reconciliation through Christ.

The project for erecting this tablet originated with the Madras Diocesan Committee of the Society for Promoting Christian Knowledge, they having communicated with the reverend Missionaries on the subject, and appointed a Committee in England, who exerted themselves in procuring additional subscriptions. It was also proposed to apply the surplus, had there been any, to founding scholarships in the Vepery Mission School, to be designated "Rottler's Scholarships." This latter object, however, we understand, has not been attained, the amount collected proving sufficient only for carrying the original design of a tablet into effect.

† "At Vepery is the finest Gothic church, and the best establishment of native schools, both male and female, which I have yet seen in India."—BISHOP HEBER'S *Journal in India*.

‡ The Herbarium has been sent to England by the executors of Dr. Rottler, and placed at the disposal of the Society for the Propagation of the Gospel in Foreign Parts, who have deposited it in the Museum of King's College, London. It is said to be rich in fine and rare specimens of Eastern plants.

\* As early as the year 1710, the Society for Promoting Christian Knowledge assisted in the support and enlargement of the Protestant Mission, then maintained by the King of Denmark at Tranquebar, for the conversion of the heathen.

## ON THE LANGUAGE OF ANIMALS.

## No. II.

IN the cage-singing birds, there is often a language which is not found in the natural state; directed to ourselves, and proportioned to their domestication or our familiarity to them. They who are attentive or interested, will easily learn to distinguish those new sounds, in their applications: the morning salute, or the welcome home, the demand for food, disapprobation under mistakes respecting this, remonstrance, or satisfaction, and much more. And when associated, in numbers, or with offspring, we hear and see what must be the expression of their ideas to each other, in various ways which cannot fail to be well known to persons attached to those animals, but would not be understood, and possibly, not believed, by others. And if, universally, an educated bird uses many sounds which it does not possess in the natural state, the same is true of our dogs and cats, the only other animals in which it is easy to make these observations. The more familiar those are with us, the more does the variety of their sounds, or their language, increase; while we find that these are used for specific, and often remarkable purposes. Were we unprejudiced, we should believe that they had invented new terms or phrases to express their new ideas, consistently with the general organization of their natural language; and, that in all such cases, there was that attempt at intercourse with us, which has become necessary to their new condition. It is the same in some measure with hogs; and would probably be found more widely, were we equally familiar with other animals. If any of the sounds of animals have a meaning, it is likely that the new ones express the new ideas, as the others do those belonging to the state of nature, or are attempts to converse with us; while we are at least sure that they do acquire new ideas through our education; as it may also confirm this opinion to remark, that in any one kind, it is the individual which displays the most intelligence, or is the most ambitious of our intimacy, that possesses the most intonations, and makes the largest use of them. And if there be any truth in this, they not only possess a natural language, but are, like ourselves, partially empowered to be inventors, under restrictions easily understood.

If an animal can learn the meaning of a language which is not its own, it would be a very extraordinary conclusion that its natural sounds were without one. And if to act definitely through certain sounds, is not to connect ideas with sounds, or to understand language, there is no meaning in this term. Or, this acquisition implies an accurate ear: since the sounds in question are difficult, because they are not musical, and because not related to those used by the animal itself. And it would be to reason very inconsistently, to admit that a given animal discriminated and understood the language of another, and not its own. To do this further, without previously possessing the principles of language, would be as great a miracle as that a dog should speak in a human voice: while the possession of it is equivalent to a proof of the existence and use of a natural language.

Dogs learn many of our words, and act upon them regularly and consistently. How much they can learn is well known; and the case is the same with the horse, the mule, and many more. A dog or a cat asks that the door may be opened, in some peculiar sound which it has invented; and it is confident of success. It has therefore the definite meaning in question, connected with the peculiar sound which it uses; and this is language. If a dog should ever

chance to say this in our own terms, under the same expectation, we should scarcely deny that it understood the meaning of the words. Yet the parrot does the same daily, when it presents its head to our finger, under the appropriate phrase, or when, under the want of food, or drink, it asks, specifically, for those, or calls, separately, and under the equally appropriate names, or cries, the persons, or the domestic animals, with which it is associated. There are endless well known cases to prove that these animals attach definite ideas to the words and phrases which they use; and, as far as can be expected from the limitation of their faculties, what those mean. Yet it is denied that the parrot understands the meaning of its acquired language; it is said to be merely imitating sounds. It is in vain to argue against prejudices: but whoever admits the intelligence in this case, must equally admit it in that of the animals first named, using sounds of their own, instead of our language, and of which we know therefore only the general, not the precise meaning. In the parrot, there is an acquisition of new ideas, attended by the appropriate language which we happen to understand: had it made noises of its own, it would have been expressing what it now does, like the canary bird demanding food, or sugar; while they who admit its intelligence at present, might have denied it in the other case, as well as in the domesticated quadrupeds. The present conclusion must be that no animal could acquire a language did it not possess the principles of language; and that if we do not understand, ourselves, more or less definitely, their acquired ones, the result of their education among us, so are they using language in their communications with each other, when we conjecture the meaning but generally or imperfectly, or when we cannot discover it at all.

There are, however, difficulties which may be slightly stated. There are animals with very limited sounds, like the ox and the sheep; or with awkward ones, like the horse, as there are some which, like the rabbit, seldom use any. It is possible that in many of these cases, there are expressive intonations which we cannot distinguish; even in the horse, we know that there are such, as we also know of some in the sheep. It is equally possible that the dulness of the ox, social as it is, may render language little necessary; and that the rabbit and others can gain their limited ends by a pantomimic language. On nothing of this nature have we any right to decide, under our imperfect knowledge of the moral history of animals; and far less are we entitled to produce such cases in answer to the others. And if the whole subject demands that investigation which it has never yet received, let us not forget that it is our perpetual error to judge of everything, even of the Almighty, by ourselves; as our vanity also knows not how to concede that any animal can approximate in faculties to man, or even that there is anything created but with reference to him, to his understanding and his enjoyments.

The case of fishes offers the greatest difficulty of all. They can have no voice, as far as we can conjecture; and their other powers in producing sounds are very limited. Yet a very obvious question immediately arises. If they are utterly dumb, why are they provided with organs or powers of hearing, and those of great acuteness, even in the shell fishes, as is well known to fishermen? We can scarcely conceive the purpose of such a provision, but for the sake of internal communication; since none have much connexion with the sounds of the terrestrial world, and many can have none whatever. It would



be that useless and operose superfluity, of which creation furnishes no parallel example. But there is also direct evidence to the same end, in the fact that a fish which has felt the hook and escaped, often renders the fisherman's further attempts useless, by warning its companions of a danger which can scarcely be described without some power of communication equivalent to language. Whether the very distant warnings which the alarmed whale gives to its fraternity, are effected by nothing more than the stroke of the tail, is not as yet proved. We ought to conclude, from the wisdom of the Deity, furnishing the means of hearing, and from His goodness, providing for the wants of all His creation, that the marine tribes do possess the means of communication through sounds; but what those can be, we are as yet unable to conjecture.

Universally, these attributes are implicated in the grant of language to animals, adapted to their wants, and of course, fitted to their several capacities, while limited by those. We have never yet found that He has neglected anything of which we could infer the utility or the necessity; and I doubt not that we shall yet fully prove, that He has not neglected this, but that all the animals which he has appointed have been endowed with language, or means of communication, adequate to their uses and subservient to their happiness.

[Abridged from MACCULLOCH'S *Proofs and Illustrations of the Attributes of God.*]

## FACTS IN COMPARATIVE ANATOMY.

### No. III.

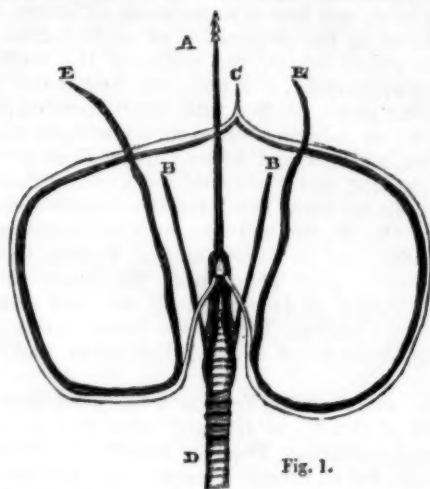
#### THE TONGUE OF THE WOODPECKER.

THE food of the woodpecker consists of beetles, ants, and other insects, which are found concealed in the crevices of the wood or beneath the decayed bark of trees. To enable the creature to obtain its concealed prey, it is furnished with a strong beak, flattened on the sides, and sharpened at the extremity like a chisel; with this powerful instrument it strips off the bark with great rapidity, or removes the rotten wood that protects the insects of which it is in search. An American species of this bird, on account of its habits, has been called the Carpenter of the Woods; in some places it is considered injurious to plantations, but this idea is erroneous, for it never attacks any but decayed trees, and its operations are productive of good instead of harm, by destroying the insects before they have time to attack the other and more healthy trees of the plantation.

Although the beak of the woodpecker is of essential service to its owner in discovering its prey and placing it within its reach, it is but ill adapted for the purpose of securing it; on this account it is furnished with a singularly-constructed tongue, having a muscular apparatus of an extraordinary nature. The tongue itself, A, as seen in the engraving, is long and slender, with a number of small bristles at the tip; this tongue the bird is enabled to thrust out to a great extent and again withdraw with rapidity. To effect this it has a most singular arrangement of muscles attached to the *os hyoides*, or bone of the tongue; the two pieces of which this bone is formed, are curved, united at c, and fixed at their other extremity to each side of the tongue.

After extending backwards for some distance they are suddenly bent upwards and then forwards, passing over the back of the head, (see fig. 2,) and uniting themselves at last in one of the nostrils at A, in which they are fixed. A strong pair of muscles are attached to those portions of these bones which are in contact

with the tongue, and these muscles (E E, fig. 1,) passing backwards, are wound in a most singular manner



round the windpipe D. By this means a very strong purchase is obtained, and the tongue, if thrust into the hole in which the insect is concealed, can be quickly withdrawn. The two short muscles BB, which are fastened to the underside of the lower mandible and to the forepart of the windpipe, draw the tongue forward, and direct it into the cleft in the tree. The end of the tongue is provided with barbs or bristles for the purpose of entangling the insect-prey of the woodpecker; but this contrivance would of itself have been hardly sufficient for the intended purpose, if other means had not been prepared.

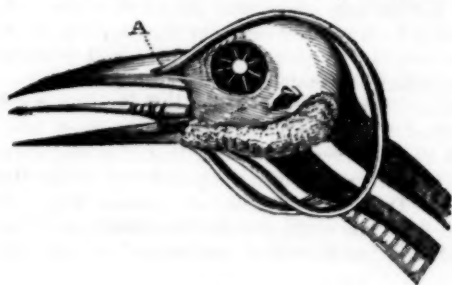


Fig. 2 is the side view of the head of a woodpecker deprived of its skin and feathers. At the hinder and lower parts, immediately below the eye, a large substance may be perceived; this is a gland for the purpose of secreting a glutinous fluid. The opening of this gland is inside the mouth, and the fluid it secretes is poured into the hollow of the lower jaw; the end of the tongue every time it is returned into the mouth is dipped into this liquid, as a camel-hair pencil might be into gum water, and being charged is thrust into the hole in which the insects are found; these adhering to the tongue are drawn back into the mouth of the bird. And here again another contrivance is to be found; a number of hairs are fixed at the back part of the mouth, which, acting like a brush, take off the insects which have been brought in, and enable the bird to swallow them without loss of time, for the woodpecker being rather a large bird, and its prey but small, it is a matter of necessity that it should be quick at its meals.

PAINTING is the intermediate something between a thought and a thing.—COLERIDGE.

THE TRUFFLE, (*Tuber cibarium*).

THE Truffle is a species of the fungous or mushroom tribe, well known as an article of luxury, when employed in the preparation of made-dishes. The Truffle grows beneath the surface of the earth, and has no appearance of a root; its form is that of an irregular globe, covered with small rounded prominences; its substance varies in colour from white to grayish, marbled, and brown; its smell is powerful and pleasant, and it is considered a great delicacy.

Truffles are found in most of the temperate climates of the Old World, and also in North America. In Piedmont, and in some parts of France, they are met with in great abundance. In France they are chiefly found in forests among oak and chestnut-trees. In England Truffles are found chiefly in the chalky districts of Sussex, Hampshire and Wiltshire.

The search after Truffles takes place from the month of October to January, when they are in the greatest perfection. Dogs are usually trained for this purpose, but in France it seems pigs are often employed, the fondness of these animals for this fungus rendering them good judges of its locality; but in this case great vigilance is necessary on the part of the Truffle-hunter, for the pig, in its eagerness to obtain the Truffle, is apt to crush it, and render it unfit for market; on this account the dog is best, being so much more docile.

The soil in which the Truffles are found, is loose, moist, gravelly earth, where they grow as near as three or four inches beneath the surface; the ground above them is generally bare, and returns a dull or hollow sound when struck. It has been remarked as a singular fact, that the more numerous the Truffles are in any place, the larger they are. When Truffles have reached maturity they split in all directions and fall to pieces, forming a soft moist mass, from which the young Truffles spring.

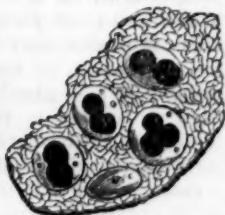
Many agriculturists have endeavoured to form artificial Truffle-beds, but the experiment has met with such indifferent success, that it is said only one experiment proved even the possibility of the thing.

The Truffle is cooked in various ways, being broiled on the coals, cut up into salad, used like the mushroom, as seasoning, and stewed in wine, &c.

Fig. 1.



Fig. 2.



The mode in which the Truffle increases is rather singular. Fig. 1 represents this fungus in a perfect state; if allowed to become ripe, and then cut open, a section of its substance will show the young Truffles in the interior, as seen in fig. 2. If it is not gathered when ripe, the whole mass falls to pieces, the young plants are at liberty, and for a time gather nourishment from the remains of their progenitor, and then, in their turn, increase, ripen, and decay.

## CORONATION ANECDOTES. No. IV.

## EDWARD III.

ON the deposition of Edward II., his son, Prince Edward, was brought to a general assembly of the nobles and clergy in the abbey church of Westminster, on the 20th of January, 1327, and Walter Raynold, taking for his text the old aphorism, "*Vox populi, vox Dei*, (The voice of the people is the voice of God,) exhorted all present to choose the young prince for their sovereign. All assented; but the prince himself declared that he would not accept the crown until it had been voluntarily resigned by his father. The consent of the deposed monarch was easily obtained, and Edward, having been previously knighted by the Earl of Lancaster, assisted by the Count of Hainault, received the crown from the hands of the archbishop of Canterbury, on the following feast of the Purification of the Blessed Virgin. The only remarkable circumstance, connected with this coronation, was the detestable hypocrisy of the queen dowager, Isabella, who, though she had been the principal cause of the late king's deposition, affected to weep during the entire ceremony.

A remarkable coronation medal was struck on this occasion; on one side the young prince was represented crowned, laying his sceptre on a heap of hearts, with the motto, "*POPULO DAT JURA VOLENTES*," (*He gives laws to a willing people*;) and on the other was a hand held out to save a falling crown, with the motto, "*NON RAPIT SED RECIPIT*," (*He seizes not, but receives*.)

Philippa, queen of Edward III., was crowned on Quinquagesima Sunday, February 18, 1330; but no particulars are recorded.

## RICHARD II.

The coronation of this king was more magnificent than any of the preceding, and we have in Prymne a perfect copy of the ritual used upon the occasion. It also affords us the first record of the Court of Claims, which was holden by John of Gaunt, duke of Lancaster. The following extract from the record in Speed's Chronicle will show the nature of the proceedings: "John, the king's eldest uncle, under the style of John, king of Castile and Leon, and duke of Lancaster, by humble petition to the king, claimed to be now steward of England, in right of his earldome of Leicester; and, as he was duke of Lancaster, to beare the king's chief sword, called Curtana; and, as earle of Lincoln, to cut and carve before the king. His petitions being found just were confirmed to him, and to his assigns, the two earles of Derby and Stafford, the first to beare the sword, while the duke should be busied about other offices as steward, and the other to cut and carve. The duke then, in great estate, held this, the king's high court of stewardship, in the Whitehall of the king's pallace at Westminster, neere to the chappell of the said palace, upon the Thursday before the coronation, which was also upon a Thursday. Then Thomas of Woodstocke, the king's uncle, was admitted to exercise the office of constable of England, in right of his wife, one of the daughters and heirs of Humfrey de Bohun, late earle of Hereford, and constable of England. Henry de Percy was, by the king's consent and writ, authorized to exercise the place of Marshall of England for that time, saving to every one their own right, for that by reason of the time's shortnesse, the claime which Margaret, daughter and heire to Thomas of Brotherton, late earle of Norfolk and marshall of England, laid thereunto, could not be discussed."

The procession of the king from the Tower to West-

minster, on the day preceding the coronation, is thus described by Holinshed: "The citie was adorned in all sorts most richlie. The water conduits ran with wine for the space of three hours together. In the upper end of Cheape, was a certeine castell, made with foure towers, out of the which castell, on two sides of it, ran forth wine abundantly. In the towers were placed foure beautifull virgins, of stature and age like to the king, apparelled in white vestures, in every tower one, the which blew in the king's face, at his approaching neere to them, leaves of gold; and as he approached also, they threw on him and his horse, counterfeit florens of gold. When he was come before the castell, they tooke cups of gold, and, filling them with wine at the spouts of the castell, presented the same to the king and to his nobles. On the top of the castell, betwixt the foure towers, stood a golden angell, holding a crowne in his hands, which was so contrived that when the king came, he bowed downe, and offered to him the crowne. But to speake of all the pageants and shewes, which the citizens had caused to be made, and set forth in honour of their new king, it were superfluous, everie one in their quarters striving to surmount other; and so with great triumphing of citizens, and joy of the lords and noblemen, he was conveyed unto his palace at Westminster, where he rested for that night."

The ceremony of the coronation was so fatiguing, that Richard was obliged to be borne back to the palace on knights' shoulders, where he rested awhile, and took some slight refreshment. He then created four earls and nine knights. Of the coronation-feast, Holinshed says, "To show what roiall service was at this feast, it passeth our understanding to describe; but to conclude, the fare was exceeding sumptuous, and the furniture princelie in all things, that if the same should be rehearsed, the reader would doubt the truth thereof. In the midst of the king's pallace was a marble pillar, raised hollow upon steps, on the top whereof was a great gilt eagle placed, under whose feet in the chapter of the pillar, divers kinds of wine came gushing forth at foure several places all the daie long, neither was anie forbidden to receive the same, were he never so poor or abiest."

Anne, queen of Richard II., was crowned at Westminster by Archbishop Courtney, January 22nd, 1382, as Holinshed says, "with all the glorie and honour that might be devised." He adds, "There were also holden, for the more honour of the same marriage, solemn justes for certeyne daies together, in which as well the Englishmen, as the new queene's countriemen, shewed prooffe of their manhood and valiance, whereby praise and commendation of knightlie prowesse was achieved, not without damage of both the parties."

Thus splendidly began a reign, destined to have a very sad termination. In the 23rd year of his reign, Richard was taken prisoner by his cousin the duke of Lancaster, and brought to London, where he was committed to the Tower, or else he would have been torn to pieces by those very citizens who had hailed his coronation with such enthusiastic joy. Articles of impeachment were exhibited against him in parliament, and commissioners appointed to examine the king on those charges. Richard prevented the necessity of a formal trial by a resignation, which, however, could scarcely be called voluntary, and this being communicated to the parliament, commissioners were appointed to prepare and publish the sentence of the king's deposition. This very remarkable instrument is so little known, that we shall insert it.

In the name of God, Amen. We, John bishop of St. Asaph, John abbot of Glastenbure, Thomas earle of Gloucester, Thomas Lord Berkeley, William Thirning, justice, Thomas Erpingham, and Thomas Graie, knights, chosen and deputed special commissioners by the three states of this present parlement, representing the whole of the bodie of the realm, for all such matters by the said estates to be committed: We, understanding and considering the manifold crimes, hurts, and harmes, done by Richard king of England, and misgovernance of the same by a long time, to the great decaie of the said land, and utter ruine of the same shortlie to have beene, had not the speciall grace of our God thereunto put the sooner remedie: and also furthermore adverting that the said Richard, by acknowledging his owne insufficiencie, hath of his owne meere voluntie and free will renounced and given over the rule and governance of the said land, with all rights and honours unto the same belonging, and utterlie for his merits hath judged himselfe not unworthilie to be deposed of all kinglie maiestie and estate royall. We, the premisses well considering, by good and diligent deliberation, by the power, name, and authoritie, to us (as is above said) committed, pronounce, decerne, and declare, the same King Richard, before this to have beene and to be, unprofitable, unable, insufficient, and unworthie of the rule and governance of the foresaid realms and lordships, and of all rights and other the appurtenances to the same belonging. And for the same causes, we deprive him of all kinglie dignitie and worship, and of any kinglie worship in himselfe. And we depose him by our sentence definitive, forbidding expresselie to all archbishops and bishops, and all other prelates, dukes, marquesses, erles, barons, and knights, and all other men of the foresaid kingdome and lordships, subjectes and lieges, whatsoever they be, that none of them from this daie forward, to the foresaid Richard, as king and lord of the foresaid realmes and lordships, be neither obedient nor attendant.

This sentence having been solemnly read, was accepted by the parliament, and ordered to be entered on the records of the realm. The same commissioners were then appointed to wait upon the king the next morning, and in the name of the three estates renounce their homage and fealty. When the sentence was thus ratified, the duke of Lancaster arose, and read the following challenge or claim to the crown, which was ordered to be recorded in the rolls of parliament:

In the name of the Father, and of the Sonne, and of the Holie Ghost. I, Henrie of Lancaster, claime the realme of England, and the crowne with all the appurtenances, as I that am descended by right line of the blood, coming from that good lord, King Henrie the Third; and through the right that God of his grace hath sent me, with the helpe of my kin and of my freends, to recover the same, which was in point to be undoone, for default of good governance, and due justice.

To this claim the lords gave a tacit but unanimous assent. The archbishop of Canterbury then stood up and asked the commons, who then sat in the same chamber with the peers, whether they also assented to the duke's claim? He was answered by a shout of approbation; upon which he went to the duke, and taking him by the right hand, led him, supported by the archbishop of York, to the throne. The archbishop of Canterbury then preached a sermon to the assembly, taking for his text 1 Samuel ix. 17, *Vir dominabitur in populo*: "This man shall rule over my people."

On Wednesday the 1st of October, the commissioners above named went to the Tower, and declared to Richard that he had been deposed, and Henry placed upon the throne. Then Justice Thirning, in the name of the rest, and for all the estates of the realm, renounced homage and fealty to Richard in solemn form. The unfortunate monarch wept bitterly while this degrading ceremony was performed, and could not avoid reverting to the enthusiasm with which his coronation had been celebrated by all classes of his subjects.

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I wish our clever young poets would remember my homely definitions of prose and poetry: that is, prose = words in their best order; poetry = the *best* words in the best order.  
—COLERIDGE.

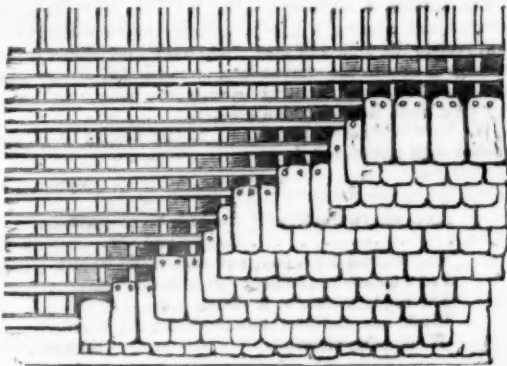


## THE USEFUL ARTS. No. XXXVIII.

## THE SLATER.

THE slate used for roofing constitutes extensive strata among the primary rocks of the crust of the globe, and is termed *clay-slate*. Its structure, scientifically called *Schistose*, admits of its being split into thin laminæ, by means of wooden wedges. These laminæ are roughly squared by means of a *pick*, or hammer, at the quarry: they are then sorted, according to their size and quality, and are brought to market under the quaint names of *Imperial slates*, *Duchesses*, *Countesses*, &c., the former being the largest. The principal British slate-quarries are situated in North Wales, and the best roofing-slates come from the celebrated vale of Festiniog.

Slates are laid on *battens*, or thin narrow deal boards, which are nailed horizontally on the common rafters of the roof, at equal distances apart, which distance is governed by the sized slate to be employed. An entire board is nailed along the lowest edge of the roof to receive the lead of the gutters, which are first laid, and then the lowest course of slates are nailed and pinned down to the lowermost batten; so that two-thirds the length of the slate, at least, should lie over the lead. The next course of slates is then fixed, so that every slate shall overlap two-thirds the depth of the course below it, every slate being also laid over the joint, between two slates of that undercourse. By this construction the rain that runs through the joint between any two slates, is kept from penetrating into the roof by being received on the surface of the slate beneath that joint; and the bottom course of slates is double, to continue the same principle down to the lead gutter.



The slates are fixed to the battens by two copper nails and a wooden pin when the work is well executed; holes being picked through each slate for the nails to pass through.

## THE PLUMBER.

THE comparative cheapness of lead, its admirable qualities, and the facility with which it can be cast and rolled into thin sheets, and drawn into pipes, cause it to be extensively used in building. The most productive mines of this metal in our own country, are situated in Derbyshire, Devonshire, Cornwall, in Wales, and in the North. In short, the ore from which lead is generally obtained, called *Galena*, or *Sulphuret of Lead*, is found in all countries where the primary rocks appear at the surface. The ore greatly resembles the pure metal in brilliance; but it is brittle and not so easily fused. It frequently contains a sufficient quantity of silver to make it worth while to adopt a peculiar process in the reduction of it, in order to separate this more valuable metal. The ore is first broken into small pieces, and is then roasted in a reverberatory furnace, to drive off the sulphur. When this object is attained, the heat is increased, till the metal is fused, and then it is drawn off into moulds, which give it the form of blocks or slabs, called *Sows* and *Pigs*.

*Sheet Lead* is made by pouring the melted lead on a large table, covered over with an even surface of fine sand, and having a ledge of an equal height above the sand all round it. When the melting metal is poured on the sand, two men, holding each end of a stiff wooden rule, called a *strike*, draw it along the table, resting on each side ledge, the liquid lead is pushed onwards by the strike, till it covers the whole surface of an even thickness, which of course is governed by the depth of the ledge round the table.

*Milled Sheet Lead* is formed by rolling a cast-plate of

the metal between large iron rollers, turned by a steam-engine. These rollers are set closer and closer together, till the lead is reduced by rolling to the requisite degree of thinness. By this process the lead is rendered more dense, and more equally so, than it ever is by simply casting; milled lead, consequently is more durable than the latter.

It should be here noticed that lead, when it is used for roofing, or for lining cisterns and gutters, is always laid on an uniform boarded surface, and not on battens or laths, like slate and tiles.

Lead pipe is either formed by bending thin sheet lead round a cylindrical mould, and soldering the joint, or when the pipe is less than four or five inches in diameter, the pipe is formed by casting a thick cylinder of lead with a small bore, and about five or six feet long. A long smooth iron rod, a little larger than the bore of the cylinder, is forced into this, and then the cylinder is gradually drawn through a succession of circular holes, decreasing in diameter, in a steel plate, by means of a powerful draw-mill, worked by a steam-engine. The lead is by this process extended out over the iron rod, which keeps the bore of the pipe of an equal diameter, and when the pipe is sufficiently reduced in thickness, the rod, or *triblet*, is forcibly drawn out, and the pipe left with a smooth bore, ready for use.

When a roof is to be covered, or a cistern lined, with lead, the sheet of the metal is unrolled on a level floor, and made free from creases and undulations by beating them down with a heavy wooden *flogger*, like a roller with one flattened side, and a handle to it. The plumber then draws on the lead the form into which it must be cut to fit the surface it is intended to cover, and afterwards cuts through the lines described with a sharp strong knife. The piece is then rolled up again for facility of carriage, and raised by tackle into its intended situation, it being placed there so that when again unrolled, it may lie in the proper situation and position on the boarding. The sheet is then again beat out flat by the flogger.

The next sheet being put into its place, and so that the edges of the two may overlap about one and a half or two inches, the workman proceeds to make the joint, or to solder the two sheets together. The first step for this purpose is to scrape the two edges or borders of the sheets that are to come in contact quite clean and bright, with a tool constructed for this purpose, consisting of a small triangular bit of steel ground sharp at its edges, and fastened at right angles on an iron sock t, fixed in a handle. When these borders of the lead are quite clean, they are painted over with black lead-paint, to prevent their tarnishing, or oxidising again, as the solder will only adhere to a clean pure metallic surface. The paint also serves as a flux to cause the solder and lead to melt together, and thus make a close joint.

*Plumbers' solder* is made of lead and tin melted together, in the proportions of two parts of the former to one of the latter metal. This alloy is fusible at a lower temperature than the tin or lead separately. The solder is cast into triangular bars, weighing from thirty to fifty pounds each. The solder is melted in an iron ladle, on a rude temporary fire-place, built as near the spot where the solder is wanting as possible. The plumber having turned back the edge of the upper sheet at the joint, an assistant carefully pours the solder on the lower edge. The workman then spreads it evenly along the joint, by means of *soldering-irons*, which are irregular-shaped iron bars, swelling at their ends into rounded forms of different sizes and shapes, according to the particular purpose for which they are intended. These irons are heated red-hot when they are to be used to keep the solder melting while it is being spread.

As soon as the workman has spread the solder, he presses and hammers down the upper edge on the lower, spreading the solder forced out of the joint, by so doing, along the seam. The outermost edge of the lead covering is nailed down to the boarding or cistern-frame by nails, with their heads lended over, to prevent the corrosion of the metal, by the chemical or *voltatic* action that takes place when two metals are in contact exposed to moisture. The situation of the soldered joints depends on the size and form of the surface to be covered over; and a good workman considers well how he can cut out the lead so as to have the fewest joints, and these in the most favourable situations. If it is a cistern he has to line, he will cover the bottom in one piece, cutting the lead large enough to admit of its turning up for an inch or two, at two of the sides, the joint consequently being made at these angles.

When a large roof, like that of a church, is covered with

lead, this is laid on in parallel bands as wide as the sheet will admit of, the edge of one sheet being turned over a wooden roller or fillet, nailed down on the boarding to receive it, while the edge of the next sheet is turned over the former lead again; the double thickness being well *flogged* down to render the joint water-tight: and in this case no solder is used.

The edges of lead gutters that turn up against the inside of the parapet are either laid as flat against the brick-work as possible, and secured so by iron *holdfasts*, so as to prevent rain from getting in, or are else, to effect the same object in all the better kind of buildings turned into a joint, in the brickwork, between two courses.

When the plumber has to join two lengths of lead-pipe into one, he opens out the end of one length into a funnel-shaped aperture, by gently driving a wooden cone into it, so as to avoid splitting the pipe. The end of the other length is then scraped down a little by the triangular tool before mentioned, not only to obtain a clean surface for soldering, but to allow of the end fitting into the funnel-shaped aperture alluded to. The two pipes being thus put together, the workman holds a thick wadding of old woollen cloth, well greased, under the joint, while a labourer gently pours melted solder over the joint, which the plumber smooths and shapes down by his soldering-iron and the cloth, into a regular smooth rounded swelling, all round the joint, making this perfectly close and water-tight.

Within the last twenty years the metal zinc has been much used instead of lead for all the purposes of the latter, and many others beside, for which the admirable qualities of zinc particularly qualify it. This metal is lighter than lead, and equally durable in the open air. It bears water nearly equally well; but it is not so flexible or manageable, being neither so fusible nor malleable. Zinc only admits of being rolled or hammered when it is heated to about two hundred and twenty degrees of Fahrenheit. When cold it is too brittle to bear much bending; nevertheless pipes, gutters, cisterns, chimney-pots, &c., are made out of sheet-zinc, and roofs, &c., covered with it.

#### THE PLASTERER.

THE business of this workman is to cover over the rough walls and ceilings of a building with *plaster*, a better kind of mortar, made of lime only; and when this plaster is of the coarser kind for the under or first coating, cow-hair is mixed with it to make it bind better. When it is a plain brick-wall which is to be plastered, the surface is at once covered with the plaster, this adhering readily to the rough brick-work: but for ceilings or partitions, a groundwork of laths is required to receive the first coating.

Laths are of different sizes and qualities according to the various work for which they are intended. Those used by the plasterer are termed *single*, and are about from two to three feet long, an inch broad, and a quarter of an inch thick. They are split out of a coarse kind of deal. *Double* laths are considerably longer and thicker, and are sawn out: they are therefore regular in their size. They are used for better work in plastering, but chiefly by tilers or slaters.

The single laths are nailed up to the joists of the ceiling, or to the *quartering* of partitions, with but a small interval between each, and entirely to cover the surface. The workmen then proceed to cover the lathing with coarse plaster, a labourer supplying them with a small quantity at a time on a square board, held in the plasterer's left hand by means of a short thick handle stuck upright into the back of the board. The man uses a rectangular flat wooden trowel, with a bridge-shaped handle, to transfer the *stuff* from the board to the wall, and to spread it evenly over the surface. When the room of which the walls are being plastered is of a better description, the work is *float*ed, that is, a regular surface is obtained by drawing a long straight-edge over the wet plaster, so as to scrape off the inequalities and reduce the whole to a plane surface.

A thinner coating of finer plaster is spread over the first to finish the plastering, and this is again floated in drawing-rooms, and so on.

The mouldings of cornices in rooms are formed by a wooden mould drawn along a straight-edge to guide the mould, acting like the carpenter's plane, when forming analogous mouldings in wood. When such cornices are of sufficient size and depth to require it, wooden brackets, shaped something like the profile of the cornice, are fixed up against the wall, and laths are nailed on these brackets,

to serve as a foundation for the mouldings. By this means the necessity for a heavy mass of plaster, to get the requisite projection in the cornice is avoided; which mass would be unwieldy to manage, and liable to fall down by its weight.

Foliage and ornamental work in plaster is made by *modelling* the ornaments by hand, in a proper kind of clay, worked by steel or wooden tools, resembling small spatulas in form. To do this requires a taste and skill in drawing or designing in the workman, which raises him to the rank of an artist. When the model is finished and dry, the surface of it is covered with a thin coat of oil, and a mould of fine plaster is taken from it in separate pieces. To allow of the plaster mould being taken off the model, the edges of these separate pieces of the mould are made smooth, so as to fit accurately together. From this mould any number of *casts* may be taken by pouring fluid plaster into the mould when it is put together; and as soon as each cast has *set*, or become hard, the mould is taken off it, to be put together again for a new cast.

Old plaster ceilings, walls, &c., are cleaned by being *whitewashed*. The plaster is first washed over with clean water, by means of broad flat brushes, to remove the dirt. All cracks and defects in the plaster are then *stopped* by filling them up with new plaster, and it is frequently necessary to cut away the plaster in such places to obtain a clean new surface to enable the new plaster to adhere. When the surface is dry, the whitewash, made of whiting, mixed up in water, is laid on with the same form of brushes, and two or three times gone over, effectually to cover all stains and marks on the surface. Instead of being whitewashed, walls are frequently coloured by mixing ochre, of the proper tint, in the water along with the whiting.

The outside of walls of houses, &c., are now frequently covered with stucco, a kind of plaster made with a lime that resists the action of water, when set, and which, if well managed, causes the wall to look as if built of stone. The mode of stuccoing walls is exactly the same as that of covering them with common plaster.

We here conclude our account of the Useful Arts connected with house-building.

AND what's the Poet if the man be naught?

Genius and wit  
May flourish for a day, and snatch the wreath  
From awkward probity; but soon shall fade  
The ready laurels of a vicious muse,  
While amaranthine honours crown the brow  
Of unpoetic virtue.

HURDIS.

If the peculiarities of our feelings and faculties be the effect of variety of excitement through a diversity of organization, it should tend to produce in us *mutual forbearance and toleration*. We should perceive how nearly impossible it is that persons should feel and think exactly alike upon any subject. We should not arrogantly pride ourselves upon our virtues and knowledge, nor condemn the errors and weakness of others, since they may depend upon causes which we can neither produce nor easily counteract. No one, judging from his own feelings and powers, can be aware of the kind or degree of temptation or terror, or the seeming incapacity to resist them, which may induce others to deviate.—ABERNETHY.

AMONGST the causes assigned for the continuance and diffusion of the same moral sentiments amongst mankind, may be mentioned *imitation*. The efficacy of this principle is most observable in children; indeed, if there be anything in them which deserves the name of an *instinct*, it is their *propensity to imitation*. Now there is nothing which children imitate, or apply more readily, than expressions of affection and aversion, of approbation, hatred, resentment, and the like; and when these passions and expressions are once connected, which they soon will be by the same association which unites words with their ideas, the passion will follow the expression, and attach upon the object to which the child has been accustomed to apply the epithet.—PALEY.

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